

WHAT IS CLAIMED

- 1 1. Apparatus for performance-monitoring of a synchronous optical network
- 2 standard signal comprising:
 - 3 means supplied with the standard optical signal for converting the standard
 - 4 optical signal to an electrical signal;
 - 5 means for separating from said electrical signal the framing signal portion
 - 6 thereof and leaving in its time slot the noise that was on the framing signal; and
 - 7 means for separating selectively for inspection such noise from the data
 - 8 power for use as a measure of the quality of the standard optical signal.
- 1 2. The apparatus of claim 1 in which the means for separating the noise from
- 2 the data includes a squaring circuit for increasing the discrimination between the
- 3 relatively low noise power and the relatively high data power, and a low pass
- 4 filter circuit for passing selectively the noise power to a display for viewing.
- 1 3. The apparatus of claim 2 in which the squaring circuit is a diode.
- 1 4. The apparatus of claim 1 in which the means for separating the framing
- 2 signal from its noise is a notch filter.
- 1 5. The apparatus of claim 4 in which the framing signal is separated from the
- 2 noise in its time slot by a low pass filter including two 50 ohm lengths of
- 3 transmission line and two one-quarter wavelength stubs of such a transmission
- 4 line, of which one is shorter and the other open-ended.
- 1 6. The apparatus of claim 2 in which the means for separating the framing
- 2 signal power from the noise power in its time slot is a notch filter.

1 7. The process for performance monitoring of a SONET standard signal
2 comprising the steps of converting the signal into an electrical signal, separating
3 from said electrical signal the framing signal in a manner to leave the noise in
4 the framing signal time slot and the data power essentially undisturbed, and
5 displaying the noise power in the framing time slot of the separated signal.

1 8. The process of claim 5 in which before its display the separated signal is
2 treated to increase the difference in level of the noise power in the framing slot
3 and the data power of the signal.

